

Claims

1. Crucible for a device for producing a block of crystalline material by directed crystallization, presenting side walls (8) and a bottom (7), the bottom (7) having, parallel to a direction substantially perpendicular to the bottom (7), much greater heat transfer properties than those of the side walls (8) along said direction, crucible characterized in that the bottom (7) and side walls (8) are formed by materials having the same main chemical constituents.
- 10 2. Crucible according to claim 1, characterized in that the bottom (7) is transparent to infrared radiation, the side walls (8) being opaque to infrared radiation.
3. Crucible according to claim 2, characterized in that the bottom (7) is made of amorphous silica, the side walls (8) being made of opaque quartz ceramic.
- 15 4. Crucible according to claim 1, characterized in that the bottom (7) and side walls (8) are formed by plates made from the same material having anisotropic thermal conduction properties, the thermal conductivity of the plates, in the plane of the plates, being much lower than their thermal conductivity perpendicularly to this plane.
- 20 5. Crucible according to claim 4, characterized in that the crucible is made of graphite.
- 25 6. Crucible according to any one of the claims 1 to 5, characterized in that the crucible comprises at least one coating (11) on at least one face of the side walls (8).

7. Crucible according to claim 6, characterized in that the material of the coating (11) is chosen from silicon nitride and reflecting materials.
8. Device for producing a block of crystalline material by directed crystallization, comprising a crucible arranged in an insulating enclosure (2) between heating means (3) arranged above the crucible and cooling means (4) arranged below the crucible, device characterized in that the crucible is a crucible according to any one of the claims 1 to 7.
- 10 9. Device according to claim 8, characterized in that it comprises a graphite felt (9), arranged between the bottom (7) of the crucible and the cooling means (4), and compression means (10) to compress the graphite felt (9) during crystallization of the crystalline material.
- 15 10. Method for producing a block of crystalline material by directed crystallization, characterized in that it uses a device according to any one of the claims 8 and 9, so as to define a temperature gradient comprised between 8°C/cm and 30°C/cm in the liquid phase.